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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,138	06/07/2001	Hiroyuki Miyake	209069US2	7670
22850	7590	08/24/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TRAN, NHAN T	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/875,138	Applicant(s) MIYAKE ET AL.	
	Examiner Nhan T. Tran	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/18/2005 & 6/8/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4 and 6-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-17 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/18/2005 has been entered.

Response to Arguments

2. Applicant's arguments filed 7/18/2005 have been fully considered but they are not persuasive. The Applicant argues that the combined disclosures of Kimura and Kazutomo do not teach or suggest a light region separating means being molded integrally with a lens mount as a single element, where first and second image forming lenses are mounted directly to the lens mount. In response, the Examiner respectfully clarifies that the first and second image forming lens mounted directly to the lens mount is taught by **Kimura** in **Fig. 5**, wherein lenses 5L and 5R are directly mounted to the lens mount 500 (also note *a central part* for mounting lens and separating incident light). The only deficiency in Kimura's teaching is that Kimura does not clearly disclose that the light region separating means (a lower portion of the central part shown in Fig. 5) is molded integrally with a lens mount (an upper portion of the central part). In Fujita Kazutomo reference, it's clear that central lens support **41a (Fig. 3)** is formed by a **single material** (integrally molded as a single element) from top to bottom for not only supporting lens

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11 and 12 including screwing rings 42 & 44 but also for separating incident light onto two areas of an image sensor 14. The Examiner respectfully submits that Kazutomo reference is not relied upon for teaching a lens mount since the lens mount has been taught by Kimura but rather Kazutomo is relied upon for teaching the central support part (41a) which is formed of a single material.

In view of the above, the Examiner believes that the combined teachings of Kimura and Kazutomo meet the Applicant's claimed invention of claims 1 & 16. For other rejected claims, the Examiner also submits that the rejection is proper. Therefore, the rejections are maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 7, 9, 10, 13, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (US 5,940,126) in view of Fujita Kazutomo (JP 07-184102).

Regarding claim 1, Kimura discloses an image apparatus, comprising:

an image pick-up device (120 or 520) having a light-receiving surface (see **Figs. 1 & 5**; col. 2, lines 56-63 or col. 5, lines 35-45 *and it is noted that either one of two different embodiments is applied in this claim*);

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a first image forming lens (111 or 5R) for forming as an image on said light-receiving surface a first light entering from a first direction toward said light-receiving surface, the first image forming lens forming an image on a first light region of the light-receiving surface;

a second image forming lens (112 or 5L) for forming as an image on said light-receiving surface a second light entering from a second direction different from said first direction toward said light-receiving surface, the second forming lens forming an image on a second light region of the light-receiving surface as shown in Figs. 1-3 & 5 (also note that a convergence angle of each of the lens in the second embodiment shown in Fig. 5 & col. 5, lines 35-45 indicates the first and second light coming from different directions);

light region separating means (141, 152 shown in Fig. 3A or a lower portion of central part shown in Fig. 5) provided between the first and second light regions;

optical means (113 or 5R, 5L) for changing a direction of travel of at least one of said first light and said second light to a direction perpendicular to said light-receiving surface; and

a lens mount (102 or 500 including upper portion of the central part) for holding said optical means and having said first and second image forming lenses mounted *directly* thereto (see Figs. 1-3 & 5; col. 2, lines 39-67 and col. 5, lines 35-45).

Kimura does not explicitly disclose that the light region separating means (e.g., lower portion of the central part as shown in **Fig. 5**) is molded integrally with a lens mount (e.g., upper portion of the central part) as a single element. As taught by Kazutomo in Fig. 3, a light region separating means (**41a**) is integrally formed as a single element for supporting lenses and separating incident light onto two different areas of an image sensor (14). Such a single molded

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structure would be easy for manufacturing the imaging device since it is made of one single material.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Kimura by integrally molding the light region separating means with the lens mount as a single element for easy manufacturing and also reducing parts.

Regarding claim 7, Kimura is silent about the first and second image forming lenses being disposed such that the first and second light regions are located diagonally relative to each other on the light-receiving surface. However, as apparently taught by Kazutomo, the light regions (14a) may be arranged as shown in Fig. 17 such that one light region is located diagonally relative to another light region on the surface of image sensor 14 in an implementation for expanding field angles or field of view.

Therefore, it would have been obvious to one of ordinary skill in the art to recognize a plurality of possible arrangements of the light regions on the light receiving surface, depending on a specific need for each imaging application, to implement the first and second light regions to be located diagonally relative to each other on the light receiving surface for expanding image field angles or field of view.

Regarding claim 9, inherently disclosed by Kimura is that the lens mount (500) is formed of a material having a light blocking characteristic in order for the image pick-up apparatus to form an image of a subject properly as disclosed since if the lens mount was not made of a light

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shield material, the image of the subject would not be formed properly due to light interference from other outside light beams which must be avoided.

Regarding claim 10, it is apparent in Figs. 1 or 5 that the lens mount forms a seal structure for inhibiting intrusion of foreign substance onto the light-receiving surface from outside together with the first and second image forming lenses.

Regarding claim 13, it is also apparent in Fig. 5 that the image-pickup device (520) is abutted against and fixed to the lens mount, and a reference plane (a horizontal plane) for allowing at least one of the first and second forming lenses to form an image on the light receiving surface is formed in a portion (e.g., a portion limited within the horizontal plane and the lens mount) where the image pickup device abuts against the lens mount.

Regarding claim 16, see the analysis of claims 1 & 7.

4. Claims 4, 6, 8, 14 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura and Fujita Kazutomo as applied to claim 1 and in further view of Lee (EP 1 104 181 A2).

Regarding claim 4, Kimura and Kazutomo do not specifically disclose a translucent plate for blocking at least one of infrared light and ultraviolet light on the light-receiving surface, wherein the light region separating means is fixed to the translucent plate. As taught by Lee, a

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translucent plate (Figs. 11B & 13B) is integrated in an imaging device package to obtain satisfactory frequency characteristic and remove unnecessary light components such as infrared light (IR) or ultraviolet light (UV) (see Figs. 11B & 13B; col. 11, [0033] and col. 12, [0036]).

Therefore, it would have been obvious to one of ordinary skill in the art to further modify the image pick-up apparatus in Kimura by including an integrated translucent plate that is fixed to both the light-receiving surface of the image pick-up device and the light region separating means to remove unnecessary IR or UV lights, thereby improving image quality.

Regarding claim 6, Kimura, Kazutomo and Lee do not explicitly disclose that the translucent plate is divided so as to sandwich the light region separating means therebetween. However, such an arrangement of the translucent plate of IR or UV to sandwich the light region separating means would be made in an alternative configuration when the image pick-up apparatus in Kimura being modified to include the translucent plate on top of the image sensor 520 for filtering IR or UV lights. The translucent plate would be divided to sandwich the light separating means therebetween during such modification. Therefore, it would have been obvious to one skilled in the art to arrange the translucent plate on top of each left and right portion of the light receiving surface of the image pick-up device (see Fig. 5 in Kimura) so that the translucent plate would sandwich the light region separating means to prevent interference light between the left and right portion of the image pick-up device.

Regarding claim 8, see the analysis of claim 4 and note that the translucent plate of IR or UV is fixed into both the light receiving surface and the light region separating means which is integrally formed with the lens mount. Thus, the combination of Kimura, Kazutomo and Lee would also meet the translucent plate incorporated into the lens mount by abutting the translucent plate against an abutting portion provided on the lens mount (see Fig. 5 in Kimura).

Regarding claim 14, see the analyses of claims 1 & 4. It is clearly seen in the combination of Kimura, Kazutomo and Lee that the lens mount and the image pick-up device are connected via a frame-like component and the frame-like component has a divider portion for dividing optical paths from the first and second image forming lenses and has a transparent plate for blocking at least one of infrared light and ultraviolet light in each of the optical paths divided by the divider portion (refer to Fig. 5 in Kimura in view of Kazutomo and Lee).

Regarding claim 17, see the analysis of claim 8.

5. Claims 11 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura and Fujita Kazutomo as applied to claim 1 in view of Lee (EP 1 104 181 A2) and in further view of Tsuchida Hirobumi (JP 2000-004386).

Regarding claim 11, see the analysis of claim 4 for the combination for a translucent plate for blocking at least one of infrared light and ultraviolet light on the light-receiving surface in view of Lee. Kimura further discloses a reservoir portion at each end of the imaging pick-up

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device 520 for fixing the imaging pick-up device to the lens mount as shown in Fig. 5. However, the combination of Kimura, Kazutomo and Lee does not disclose that the translucent plate integrated on the top of the imaging pick-up device is fixed to the lens mount by providing an adhesive to the reservoir portion.

Tsuchida teaches an adhesive is provided at a reservoir portion (26) for fixing an imaging pick-up device (60) to a lens mount (20) (see Abstract and Fig. 5).

Therefore, it would have been obvious to one of ordinary skill in the art to recognize that an adhesive would be provided at a reservoir portion of the lens mount for fixing the imaging pick-up device including the integrated translucent plate to the lens mount so as to secure structure of an image pick-up apparatus.

Regarding claim 12, Kimura shows in Fig. 5 that the lens mount includes a taper portion at the central part of the imaging apparatus. The taper portion is formed such that it separates optical path from the first and second image forming lenses in a vicinity of the light-receiving surface. Kimura does not show that the taper portion has an opening end that becomes larger toward the light-receiving surface. Tsuchida teaches a well-known practice for a lens mount portion (20) to be configured in a taper shape such that the taper portion has an opening end becoming larger toward an image pick-up device to leave more space for electrical circuits/components to be incorporated with the lens mount safely and easily during manufacturing the imaging apparatus.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura and Fujita Kazutomo as applied to claim 1 and in further view of Robb (US 6,177,950).

Regarding claim 15, Kimura teaches the image pick-up apparatus being a small video camera incorporated in an endoscope that is capable to capture a plurality of objects from different angles through different lenses. Kimura fails to teach a portable telephone incorporating such the video camera.

Robb teaches a portable telephone incorporating a small video camera (2) that is capable to capture a plurality of objects from different directions through different lenses (see Figs. 1 & 6; Abstract; col. 3, line 48 – col. 4, line 9; col. 10, lines 33-40).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the image pick-up apparatus in Kimura into a portable telephone to capture a plurality of objects from different view angles through different lenses so that a multifunctional portable telephone would be realized.

Allowable Subject Matter

6. Claims 18 & 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or fairly suggest that a width of said light separating region means is 0.1mm to 0.2mm as required by claims 18 & 19.

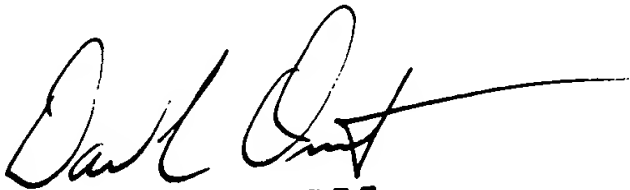
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.


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EXAMINER